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AUVSI: Standards, Bomb-Disposal and Hollywood – All In UAS Sights As Industry Gathers.

Baltimore, Md., AUVSI's annual symposium – the 32nd – opened here to an attendance of about 4,000, and marking a year in which overall activity by the society grew 20 percent. Overall theme – if a central theme can be said to exist for the diversity of unmanned systems represented – emerged as a need for standardization. Speakers at the opening plenary session all stressed it is time for the underlying protocols that drive the systems elements to be accepted across the development spectrum. Open system architectures is one key, but other things – such as mete-data, norms for describing data assets in ways that are meaningful to users – are becoming vital. 'It is tedious work,' AUVSI President Dewar Donnithorne-Tait admitted, 'but it is the key to the future of the industry.' The word 'systems' was very much in evidence, this being the first AUVSI conference in which the term UAS (Unmanned Aerial System) has been substituted for the customary UAV.

The following are selected highlights from the opening session presentations:

. USAF is finishing up tests of a Scan Eagle (Boeing/Intuit) equipped with acoustic sensors designed to direct fire on to insurgents. The system – coming out of a Battle Lab test series flown at Indian Springs, Tx., - will be sent to the Iraqi theater this Fall. Dubbed 'shot-Spotter' the idea is to pin down RPG, mortar and small arms shooters;

. The UK now has a new UAV project – Dabinet – in planning to look at a future generation system. Air Cdre Stu Butler (RAF), Director, Equipment Capability ISTAR, says the MoD is preparing study contracts, and bemoans the fiscal constraints attached to new programmes. He admits the new project comes even as the details of the long-running Watchkeeper project are still awaiting finalisation. Dabinet - from a sketch shown here – appears to be a stealthy, perhaps J-UCASS-like vehicle with long-range/long endurance characteristics. The UK also recently carried out UAV control tests from an RN frigate, using a Scan Eagle, he said;

. RADM Tim Heely, the USN's PEO for strike weapons and unmanned weapons sought to diminish doubts the service is serious about BAMS. 'There's money for it, we've got a plan, gosh I don't know what else to tell people,' he says. Industry has become soured on the amount of time it's taking to bring the programme forward, but Heely's message is to hang tight. On his side of the fence, the frustration is the slow pace of integration of UAVs and civilian airspace. 'There's a need for a forcing function, we have to fight it,' he said.

. Prize for most moving presentation would go to US Army Capt Bryan Sopko of the Army's 52nd EOD (Explosive Ordnance Disposal) group. Sopko explained the role robots are playing, but also says they have only recently arrived in the Iraqi theater. Sopko had a style about him that was riveting – deadly serious about the need for such technology combined with a sincere appreciation for the difficulties in design and development of it. 'We need more dexterous machines, we need a 3-D vision capability, quick change tool sets on the robots – everything you can give me,' he told the hushed audience. The robots – a range of vehicles, with many pictures showing Foster-Wheeler Talons – are making a difference and saving the lives of the EOD experts. Currently 60 EOD teams scattered throughout the Area of Operations are dealing with up to 70 improvised explosive devices (IODs) a day in Iraq;

. Speaking of Talons, Army special ops people are working on Talons (Foster-Wheeler/Carlyle Group, Qinetic) that could be placed along traveled routes as unmanned snipers. The tests – at Aberdeen Proving Grounds, Md., have shown they could be placed in concealed positions and set to listen and watch for groups placing IEDs. The machines would then open up with machine guns, grenades, incapacitating gases, whatever - and could also be used to 'chase' personnel escaping in vehicles. A variant is reportedly being developed for use in buildings;

. The US Navy's new Littoral Combat Ship (LCS) – due to arrive in the fleet at the end of 2006 - is driving a big need for standards t be set for underwater unmanned vehicles (UUVs), says RADM Bill Landy. He says the needs for a set o defined protocols and standards are needed in the following areas: communications, control autonomy, payloads, launch and recovery techniques, power distribution, underwater connectors and CPUs. 'I have to go to my bosses and tell them we can do this,' he told the audience, 'but these are the areas we need your help in.'

. Echoing the theme of what you do to make 'the network work' Dennis Self, chief of the Airborne Branch of the National Geospatiale-Intelligence Agency, issued a similar heartfelt plea: 'what will enable us to make use of the products we collect around the network is if you come up with the levels of data standardization we need.' Self says the problem is something that has to be solved if data gathered in a network centric way is actually to be consumable by users. One way to do this is to ensure 'meta-data' (capsule descriptions of the underlying actual imagery data available) is also standardized and made available. He admits the world of network-centric data distribution is highly dynamic. 'The standards I'm talking about are changing all the time, so the question is how to standardize on changing standards?' One answer for the highly secret agency has been to turn to Hollywood for help: a movie-making system called Advanced Authoring Format – used by producers to send partially assembled special effects around their networks for review by creative people answers some of the concerns;

. Self said the top priority advanced concept demo programme in the US today is collecting advanced precision positional information from aircraft and UAV sensors to drop into the network to pass on to the strike communities involved. 'We don't have the right precision levels for the weapons we need right now,' he explained. 'This was decided as the top thing to demonstrate in the FY 06 timeframe by the DoD.'

. Kevin Meiners, from the Office of the Undersecretary for Intelligence – Dr Steve Cambone's shop - is always a popular speaker. Here he gave a brief overview of likely defense spending (declining), likely UAS spending (rising) and some of the technical lessons learned in OIF. (one is that pilots won't respond to UAV cues for targets unless the latter have laser/designation capability. Latest move in his office is a full-scale review of exactly what and how much full motion video (FMV) is really needed to support combat operations. And he updated a brewing controversy over who should control UAVs. Rumours that USAF made an end run are true, but it has now changed to being a joint responsibility. Meiners said the compromise is to open a new 'joint' center of UAV excellence at Nellis AFB, run by an Army one-star. A one star Marine will oversee the materiel issues coming out of the center. Meiners said Clay Robinson (Clay.Robinson@OSD.mil) is co-ordinating activities, and encouraged industry to become involved.

- David S. Harvey

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